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Notes on some western palaearctic Pristocerinae (Hymenoptera, Bethylidae)

by

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With 14 figures

ABSTRACT

Dissomphalus claudivani sp. n. is described from Israel. This confirms the occurence of the genus in the western palaearctic region. The hitherto unknown female of *Sclerochroa pallidicornis* (Kiefer) is described. Three new specific synonyms and two new combinations are proposed. A lectotype is designated for one species.

The present paper is based on Pristocerinae taken by Drs. Claude Besuchet and Ivan Löbl, Muséum d'histoire naturelle, Geneva (MHNG). The material was collected by sifting leaf litter and rotten wood, and in ant nests. Female pristocerines are apterous and ant-like, which makes them difficult to capture and therefore rare in collections. The material contains a new species of *Dissomphalus* Ashmead, which I am pleased to name after its two collectors. This confirms the occurrence of the genus in the western palaearctic region. The second discovery is a female of *Sclerochroa pallidicornis* (Kiefer), known so far from males only.

DESCRIPTION OF SPECIES

Dissomphalus claudivani sp. n. (Figs 1-3)

Material examined: Holotype female, Israel: Galilea, below Safad, 26.IV.1982, lg. Cl. Besuchet & I. Löbl (MHNG).

DESCRIPTION: Female. Length 1.3 mm. Uniformly yellow; antennae and legs pale yellow; abdomen weakly infuscated; mandibular teeth piceous. Pubenscence of body yellowish; dense on head and scape, about as long as length of eye; dense and very short

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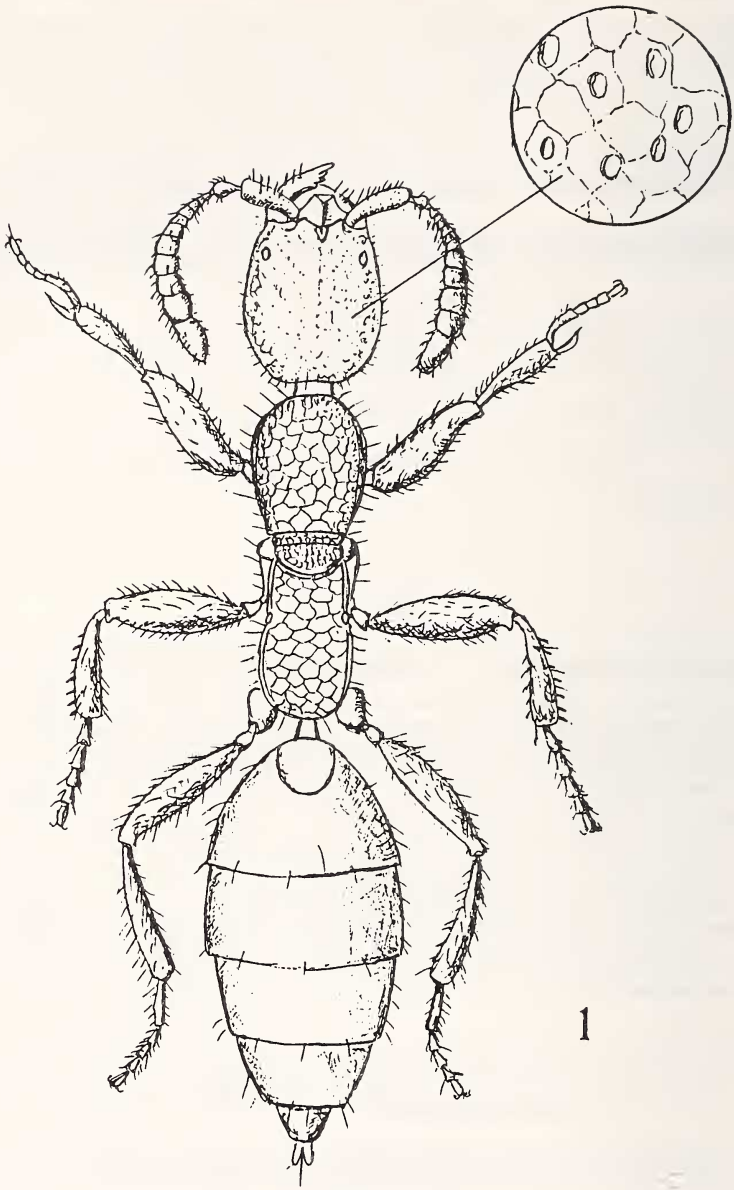


FIG. 1.

Dissomphalus claudivani sp. n. ♀, habitus.

on flagellum, about as long as diameter of an eye facet; apical row of scattered setulae on pedicel and first six flagellar segments about as long as diameter of two facets; thoracic dorsum with moderately dense pilosity, twice eye length on pronotum and three times on propodeum; abdominal setosity longer. Head 1.3 times as long as wide (from crest of vertex to apex of clypeus); ovoid, widest in the middle, gradually narrowing to base and

apex; width in the middle 1.5 times as wide as distance between mandibular base. Front glabrous. Eye small, with two facets per longitudinal line, separated from mandibular base by the double of eye diameter. Surface of head shiny, with very weak alutaceous sculpture and minute, shallow punctures. Mandibles quadridentate. Apex of median clypeal lobe as wide as diameter of antennal socket (Fig. 2); medinan clypeal carina, in lateral view strongly emarginate in middle, acutely upturned at apex (Fig. 3). Antennae 13-segmented, strongly clavate; penultimate segment about twice as wide as first flagellar segment; scape curved, about thrice as long as broad (2.9: 1); pedicel globular, as long as broad; flagellar segments 1-5 strongly transverse, 6-10 subquadrate, flagellar segment 11 1.5 times as long as broad; pedicel and flagellum together as long as head. Thorax 1.4 times as long as head and 0.6 times as wide; subparallel, pronotum slightly wider than propodeum (1.1: 1); pronotum about 1.2 times as long as broad; mesoscutum transverse, narrow, much broader than long; scutellum semicircular, about twice as broad as long; propodeum 1.5 times as long as wide. Thoracic dorsum with distinct alutaceous sculpture, the meshes at base slightly larger than at apex, without distinct punctures. Legs strongly spinose; profemur broadest, metafemur longest, mesotibia with one row of 7 spinules on outer side; spinules about a quarter as long as tibia width. Sides of abdominal petiole diverging to apex, about 1.2 times as long as maximum width. Abdomen (slightly damaged) 1.4 times as broad as head, and about as long as head and thorax together; tergites with shiny surface, without alutaceous sculpture and punctures only present at base of setulae; first tergit narrow, ovoid, the following ones transverse. Segments telescopic.

MALE unknown.

Host unknown.

COMMENTS: *Dissomphalus claudivani* is characterized by the difference of pronotal and propodal sculpturing, which is very fine. This the first confirmed record of the genus from the western palaearctic region. Related species occur in Japan and the Seychelles. KIEFFER (1912) described *D. saxatilis* and *D. excisicrus* from Seychelles, the latter having a body length of 4.0 mm.

According to EVANS (1964) *Ecitopria proxima* Kieffer from Sardinia and Spain and *Psilobethylus luteus* Kieffer from Italy may belong to *Dissomphalus*. Based on material from Spain and KIEFFER's description, it seems likely that *proxima* belongs to *Dissomphalus*. It differs from *claudivani* in body size (2.5 mm) and in the strongly punctate head. The second species, *Psilobethylus luteus* is 1.5 mm long and yellow, closely resembling *claudivani*. KIEFFER's illustration shows the mandible tridentate and the quadrate head, with punctiform eyes and both pedicel and first flagellar segment longer than wide. These characters suggest that the species may belong to *Apenesia*.

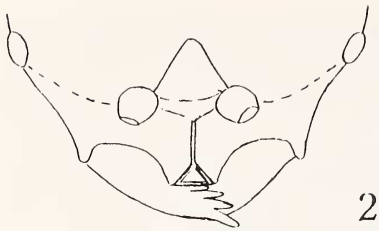
Sclerochroa Förster

Sclerochroa Förster, 1850: 501. Type species: *Sclerochroa (Scleroderma) rufa* Förster, 1850, by monotypy.

Pseudisobrachium Kiefer, 1905: 368. Type species: *Pseudisobrachium laticeps* Kieffer, 1905, designated by KIEFFER 1906 **syn. nov.**

Afrisobrachium Benoit, 1957: 29. Type species: *Afrisobrachium mavortium* Benoit, 1957, by original designation **syn. nov.**

EVANS (1964) gives the full synonymies, a detailed account on morphology and geographic distribution of the genus.



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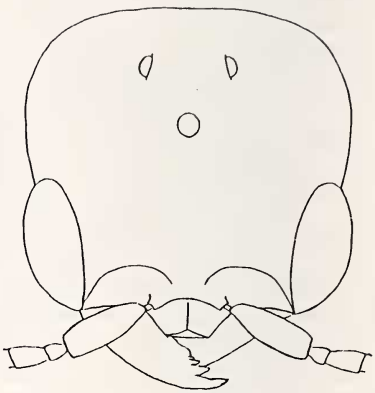

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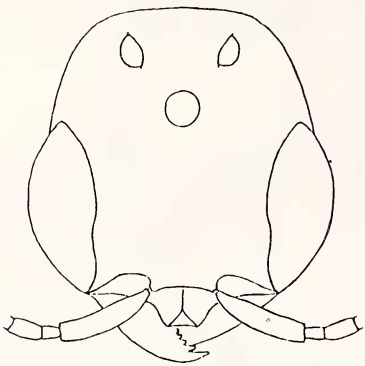

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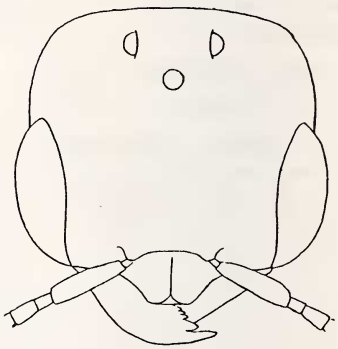

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FIGS 2-6.

2: *Dissomphalus claudivani* sp. n., ♀, clypeal area of head; 3: the same, median clypeal lobe sublateral view; 4: *Sclerochroa subcyanea* Haliday ♂, head; 5: *Sclerochroa pallidicornis* Kieffer ♂, head; 6: *Sclerochroa rufa* Förster ♂, head.

KEY TO WESTERN PALAEARCTIC SPECIES OF *Sclerochroa* Förster (♂♂, ♀♀)

1 (10) Wings fully developed, males 2

2 (3) Ocelli large, width of front (at minimum point between eyes) at most 1.5× width of ocellar triangle (at maximum, including lateral ocelli). Side of head sharply narrowed behind eyes (Fig. 5). Posterior half or more of propodeal disc polished and shining, carinulately margined on sides. Notaulices developed on anterior 0.3 of mesoscutum. Length 2.2-4.0 mm.

Range: Levant, The Maghrebian, West African coast up to equatorial Africa ..... *pallidicornis* (Kieffer), ♂

3 (2) Ocelli small, width of front at least 2.0× width of ocellar triangle. Side of head broader, eyes less emerging. Either the propodeal disc entirely rugose, or else, if more or less shining, then not carinulately margined on sides 4

4 (5) Width of front 2.2× width of ocellar triangle. Notaulices developed on anterior 0.6 of mesoscutum. Propodeal disc entirely rugoso-reticulate. Head with round, umbilicate punctures, separated by their own diameter. Large black species with dark legs. Usually of 5.0-5.2 mm, often 2.7-4.0 mm length. Range: entire Europe including British Islands .... *subcyanea* (Haliday) ♂

5 (4) Width of front only 2.0× width of ocellar triangle. Notaulices not developed or feebly indicated on anterior third of mesoscutum only ... 6

6 (7) Front angle of ocellar triangle exactly right angle. Mesocutum without trace of notaulices, or superficially indicated on a very short distance. Propodeal disc entirely polished and shining including sides and declivity, except at base weakly alutaceous; median carina developed, sides not margined. Antennae and legs bright yellow. Length 3.8-4.8 mm. Range: localised on East Mediterranean islands and Levant ..... *rufa* Förster, ♂

7 (6) Front angle of ocellar triangle very acute, of about 70°. Notaulices deeply impressed on anterior 0.3 of mesoscutum. Surface of propodeal disc entirely rugoso-reticulate, its sides margined by a weak carina, median carina developed. Femora always brown 8

8 (9) Head rather short (Fig. 8), in lateral view of head eye 1.5× as long as the temple. Median lobe of clypeus acute, the truncation not wider than the pedicellus. Head with fine, minute punctures, separated by 2-3 puncture diameters. Flagellar segments 1-6 about twice as long as broad. Lateral ocelli separated one another by a little less than diameter of median ocellus. Antennae and legs uniformly brownish. Female unknown. Length 4.0-5.0 mm. Range: East Africa to Arabic peninsula (Yemen, new record) ..... *monticola* (Kieffer), ♂, *comb. n.*

9 (8) Head elongate (Fig. 7), in lateral view eye only 0.9× the length of temple. Median lobe of clypeus as broad as width of scape. Head with large, slightly ovoidal punctures, separated by half puncture diameters. All flagellar segments about 1.5× as long as broad. Lateral ocelli separated one another by twice the diameter of median ocellus. Scape brown, flagellum rufous; legs brownish. Female unknown. Length 3.5-5.0 mm. Range: Seychelles Islands, Saudi Arabia and Jordania (new record) ... . *crucifera* (Kieffer) ♂, *comb. n.*

10 (1) Ant-like, wingless, females 11

11 (12) Length of head (from apex of clypeus to occipital border) 1.2× width of head, shape pyriform (Fig. 11), considerably diverging behind. Front above antennal sockets concave and with distinct median carina. Propodeum subtriangular (Fig. 12), sides diverge backwards in straight line. Length 3.0-4.0 mm ..... *subcyanea* (Haliday) ♀

12 (11) Length of head 1.3× width of head, shape not pyriform. Propodeum with sides arcuate 13

13 (14) Sides of head subparallel (Fig. 9) slightly bulging behind eyes, and the posterior corners rounded at a considerable distance before occipital border. Propodeum subtriangular (Fig. 10), its sides arcuately and strongly diverge backwards. Length 3.8 mm..... *rufa* Förster, ♀

14 (13) Sides of head perfectly parallel (Fig. 13) anteriorly and weakly converge posteriorly, not bulging. Propodeum ovoidal (Fig. 14), with arcuate sides which not or only inconspicuously diverge backwards. Length 3.5 mm ..... *pallidicornis* (Kieffer) ♀

From these five species of the Palaearctic region, only three being treated below. One, *rufa,* because the male is first described here. The second, *subcyanea,* known also from Switzerland, because was described under very different names. Third, *pallidicornis,* whilst the female was discovered recently.

Sclerochroa rufa Förster (Figs 6, 9-10)

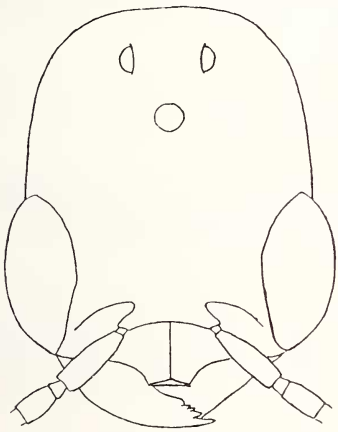
Sclerochroa (Scleroderma) rufa Förster, 1850: 501. Lectotype female: Southern Europe, from coll. G. Mayr in coll. Q. Argaman (No. 883). Here designated.

Material examined: Lectotype female: Southern Europe; 1 male: Corfou (Paganetti) (Mus. Budapest); 1 male: Crete (Mus. Budapest); 1 male: Rhodos (MHNG); 1 male: Cyprus; 1 male: Israel, Dead Sea area (author's coll.).

DESCRIPTION of the lectotype: Length 3.8 mm. Head and thorax rufous, antennae, legs and abdomen yellowish, pygidium rufous, and point of articulation of first tergit piceous. Mandibles with 4 teeth, clypeus broad, median carina sharp, complete. Head 1.3 times as long as wide, sides subparallel, very weakly arched, posteriorly irregularly converging to narrow, slightly excavated vertex. Eyes consisting of a single pale, conspicous facet each, separated from mandibular base by 3 times its diameter. Front with median impunctate streak, otherwise with large, ovoid punctures as wide as diameter of eye, separated from each other by about the diameter of one puncture; intervals indistinctly alutaceous; a very small area behind antennal tubercles alutaceous. Antennae reaching base of pronotum, weakly clavate; scape 3.7 times as long as broad; pedicel slightly longer than broad; flagellar segments 1-6 as long as broad, segments 7-10 a little broader than long, segment 11 about twice as long as broad. Pronotal disc 1.4 times as long as broad; surface of disc shiny, anterior and posterior one-sixth alutaceous; either side with two irregular, longitudinal rows of round punctures. Mesoscutum forming narrow, deeply impressed belt. Scutellum concave anteriorly, sides triangularly converging, 1.4 times as long as wide, surface like on pronotum. Propodeum 1.6 times as long as wide, in dorsal view subovoid, regularly arched; surface weakly alutaceous with some small lateral punctures in two longitudinal rows. Mesopleuron with dull alutaceous sculpture in dorsal two-thirds, with convex meshes; ventral third longitudinally striolate. Pleurae of propodeum similar but alutaceous sculpture restricted to dorsal half. Abdomen 2.5 times as long as wide; surface shiny, base of tergites weakly alutaceous. Mesotibia with two rows of spinulae, which are about as long as a third of the tibial width. Hairs on body and legs numerous, golden-yellow, of moderate length.

MALE: Length 4.0-4.7 mm, length of forewing 2.5 mm. Head, pronotum, mesonotum and scutellum black; propodeum and abdomen castaneous; apical half of mandibles, antennae and legs including meso- and metacoxa yellow; procoxa, wing venation and pterostigma brownish; side of first tergit and three apical, triangular spots on tergites 2-5 yellowish-piceous (in male from Corfou). In the male from Crete procoxa black, meso- and metacoxa brownish; in male from Rhode meso- and metafemur dirty

yellowish in the middle; in the male from Cyprus legs reddish-yellow, in male from Israel procoxa yellowish, antennae brownish ventrally. Wings hyaline, with dense dark setulae. Mandibles with 5 teeth, clypeus with acute, but low median carina, apical truncate, as wide as scape. Antennae reaching base of scutellum; first flagellar segment twice, penultimate 1.5 times as long as wide; flagellar pubenscence very short, subdecumbent, with some scattered, suberect setulae. Head (Fig. 6) broad, behind eyes parallel-sided, rounded at short distance before occiput. Surface of head dull alutaceous, meshes very small, uniform and convex; punctures shallow, round, umbilicated, separated by one diameter. Anterior margin of median ocellus situated behind the dorsal eye level; oceli spaced to form a right angle anteriorly; distance between lateral ocelli 1.5 times diameter of median ocellus. Distance from dorsal eye level to vertex crest, in lateral view, 0.8 times



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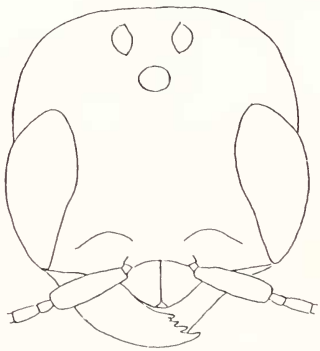

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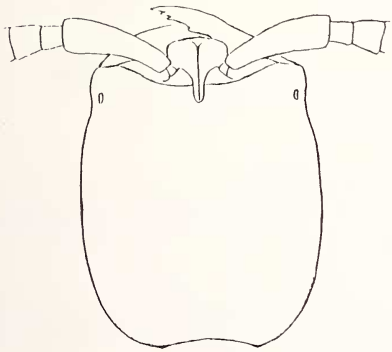

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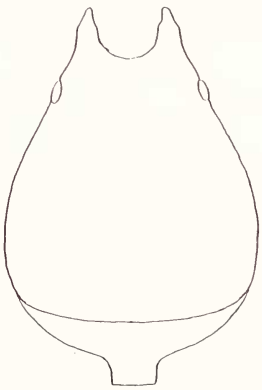

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FIGS 7-10.

7: *Sclerochroa crucifera* Kieffer ♂, head; 8: *Sclerochroa monticola* Kieffer ♂, head; 9: *Sclerochroa rufa* Förster ♀, head; 10: the same, propodeum.

eye length. Pro- and mesonota and scutellum strongly alutaceous, sparsely punctate; mesonotum and scutellum with median shiny stripe. Notaulices absent or present in basal fifth to third of mesonotum. Propodeum shiny, basal third irregularly alutaceous, median carina present in basal half. Mesopleuron alutaceous, with scattered shiny spots, callus not raised, ventral half with large, deep punctures. Pleural side of propodeum shiny, alutaceous near the margins. Discoidal vein of forewing strongly sclerotized in distance as long as width of transverse-median vein, otherwise transparent. Body and legs with moderately long, golden-yellow pubescence.

COMMENTS. It has been suggested that *rufa* may be synonymous with *Pristocera depressa* Fabricius or *Sclerodema domestica* Latreille. Both species are widely distributed in Europe, and their females are apterous. *S. rufa* differs from the former in its smaller size and propodeal structure, and from the latter in the shape of propodeum and mandibles, and in the setosity.

Sclerochroa subcyanea (Haliday) **comb. nov.** (Figs 4, 11-12)

Epyris subcyaneus Haliday, 1838: 519, male (England).
Pseudisobrachium carpenteri var. *septemfasciatum* Kieffer, 1906: 301, male (France) **syn. nov.**
Pseudisobrachium concolor Kiefer, 1906: 305, female (type from Simont only) **syn. nov.**
Material examined: 1 female, numerous males: Britannia, Galway, coll. Marshall; Hungary, France, Italy, Sweden, Switzerland, Rumania.

DIAGNOSIS: The species is easily recognizable by the head having in both sexes backwardly divergent temples. The male has a wide front, 2.2 times the width of ocellar triangle; notaulices well-developed even in small specimens, legs generally dark. Female with triangular propodeum, straight margins, pubescens of body pale, whitish-yellow, front with indistinct median longitudinal sulcus.

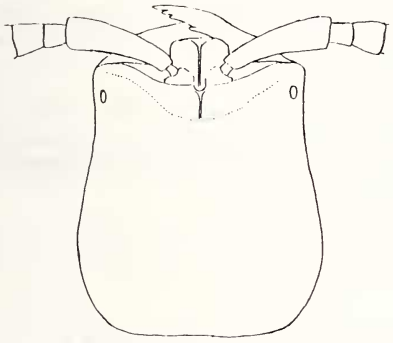
COMMENTS: RICHARDS (1939) described both male and female, and listed synonymies. The species is wide-spread in Europe and displays a marked morphological variability, particularly in the males. The characters defining *Pseudobrachium carpenteri* var. *septemfasciatum* and *P. concolor* fall within the range of variation of *subcyanea* and they are synonymized with the latter.

Sclerochroa pallidicornis (Kieffer) **comb. nov.** (Figs 5, 13-14)

Pseudisobrachium palidicorne Kiefer, 1910: 46, male (Tunisia, Kairuan).
Afrisobrachium mavortium Benoit, 1957: 29, male (Congo) **syn. nov.**
Material examined: 1 female: Israel, Galilée, Mt. Meron, 900 m, 21.IV.1982, lg. Cl. Besuchet & I. Löbl (MHNG). Numerous males from Algeria, Congo, Gabun, Israel, Jordania, Morocco, Nigeria and Tunisia.

Supplementary description: The species is characterized by relatively narrow, parallel-sided head and the strongly shiny propodeum in both sexes. The male tends to have large ocelli. Female with subparallel-sided, ovoid propodeum, with subparallel, weakly convex sides. Similar to *rufa*.

FEMALE: length 3.5 mm. Head and mandibles dark brown, thorax brown; antennae, legs and abdomen yellow, first tergit with black triangle at base. Head 1.3 times as long as wide; sides subparallel, behind the middle weakly converging toward vertex. Surface



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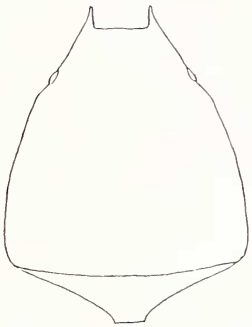

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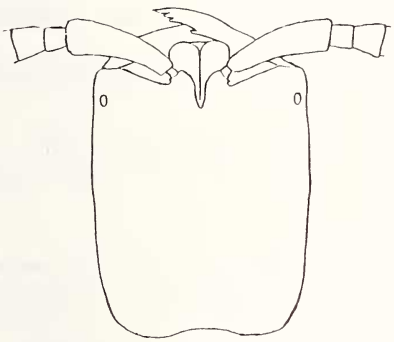

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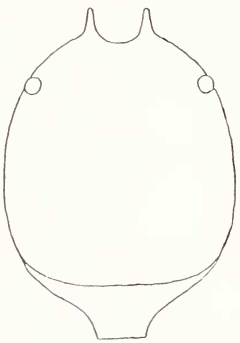

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FIGS 11-14.

11: *Sclerochroa subcyanea* Haliday ♀, head; 12: the same, propodeum; 13: *Sclerochroa pallidicornis* Kieffer ♀, head; 14: the same, propodeum.

of head dull, subrugosely punctate; the large ovoid punctures arranged in longitudinal rows separated by the distance of a puncture, punctures in a row separated by 0.25 times puncture length. Pronotal disc 1.3 times as long as wide, scutellum 1.4 times as long as wide; propodeum 1.3 times as long as wide, ovoid with subparallel sides (Fig. 14), surface shiny, not alutaceous, the lateral punctures weakly impressed in two irregular rows. Abdomen 1.6 times as wide as head, not alutaceous; tergites with each a transverse row of strong setulae in the middle and at the apex.

MALE: Length 2.2-4.5 mm, length of forewings 1.8-3.0 mm. Head narrow, eyes strongly protruding. Front 1.5 times as wide as width of ocellar triangle; median ocellus situated between inner orbits, lateral ocelli separated from each other by diameter of median ocellus. Distance between dorsal eye level and vertex crest, in profile, 0.6 times as long as eye. Propodeal disc shiny in about posterior half, alutaceous at base; median

carina usually well-developed on three quarter of disc; sides carinate and slightly rugose. Mesoscutum always with notaulices developed in basal third of the disc. Forewing without sclerotized discoidal vein, only with transparent line.

COMMENT: The head shape of this species is very variable. The width of the front varies from 1 to 2.1 times the width of the ocellar triangle. This phenomenon is recorded from other species of the genus. EVANS (1969) suggested that such forms represent diurnal and nocturnal populations of the same species.

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